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(71) Applicant and

(72) Inventor: **STRIEGL, Thomas** [DE/DE]; Messerschmittstrasse 7, 89231 Neu-Ulm (DE).

(74) Agent: **UNGERER, Olaf**; Eisenführ, Speiser & Partner, Arnulfstrasse 25, 80335 München (DE).

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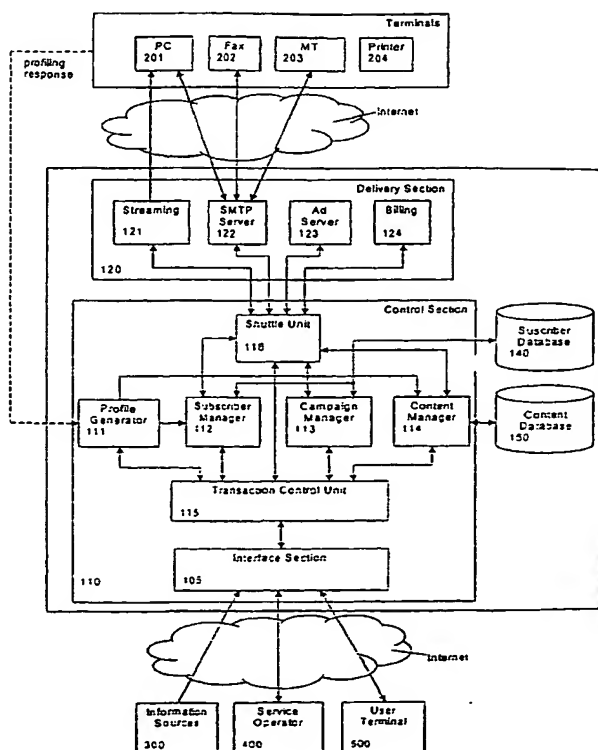
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(54) Title: NETWORK SERVER AND METHOD FOR DELIVERING A SUBSCRIBER-SPECIFIC INFORMATION VIA A COMMUNICATION NETWORK



(57) Abstract: The present invention relates to a network server (100) and a method for delivering a subscriber-specific information such as a newsletter or an e-mail for a campaign via a communication network to at least one subscriber. A user interface (105) is provided for enabling a network user to control the campaign via the communication network, said campaign defining predetermined delivery parameters of said subscriber-specific information. The subscriber-specific information is then delivered to network terminals (201-204) of the at least one subscriber in accordance with the predetermined delivery parameters. Thus, a subscriber-specific information for a marketing or any other type of e-business campaign can be delivered at minimum hardware requirements, since the initiator of the campaign merely requires a user interface such as a Web browser to access the network server of the service provider in order to place or control the campaign. Moreover, synergy effects can be exploited due to combined use of a content database (Fig. 2).

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Network server and method for delivering a subscriber-specific information via a communication network

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## FIELD OF THE INVENTION

The present invention relates to a network server and method for delivering a subscriber-specific information for a campaign via a communication network, such as the Internet and/or a mobile communication network, to at least one subscriber.

## BACKGROUND OF THE INVENTION

As computer technology has evolved, so too has the use of data networks to communicatively couple computer systems together enabling them to communicate with one another. Those skilled in the art will appreciate that data networks may be configured in a number of alternative network topologies, employing any number

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of alternative communication protocols. From small peer-to-peer networks, to local area networks (LAN), wide area networks (WAN) and enterprise networks (sometimes referred to as an intranet), to global data networks. One of the more popular of such global data networks is referred to as the Internet, an interworking of governmental, educational and commercial networks and servers throughout the world.

Recently, however, the Internet has evolved to support electronic commerce, sometimes referred to as e-commerce. Electronic commerce sites on, for example, the Internet are presented in the form of publicly accessible web pages which place the stock, availability and pricing information of their products online. A typical e-commerce site may be thought of as being comprised of at least two parts, a first part which is comprised of the HTML (Hyper Text Markup Language) document to create the graphical user interface (GUI) on the Internet, and a second part comprised of a data base housing the product information, i.e. stock/availability, and pricing information. The GUI front end provides the user with a means of searching for product information, stock or availability, and pricing by entering search terms or a query list, which is then used to access and retrieve the appropriate information from the data base for display to the user.

Recommendation services have been established as computer-implemented services that recommend items from a data base of items. The recommendations are customized to particular users based on information known about the users. One common application for recommendation services involves recommending products to online customers. For example, online merchants commonly provide services for recommending products (books, compact discs, videos, etc.) to customers based on profiles that have been developed for such customers. Recommendation services are also common for recommending web sites, articles and other types of informational content to users.

Document WO 00/17792 discloses a collaborative recommendation service which

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generates recommendations using a previously generated table which maps purchased items to lists of "similar" items assumed to be of interest of the user or customer. "Similar" items are defined based on a user profile database which contains information regarding the users purchase history, the users item ratings profile, contents of shopping carts, items recently removed from the shopping cart, URLs (Uniform Resource Locators) from the favorite places list of the user's Web browser, user's credit card records or viewing activities of the user. The recommendations list is then returned to the user with a web site containing a hyper textual link to the items product information page.

Furthermore, document US 5 537 586 discloses a selective text retrieval method and apparatus for retrieving and selecting profiled textual information records from a database. A subscriber profile is used for the selection of records retrieved for assembly into a preferred set of textual records. A user manager receives and processes subscriber feedback and user profiles. In generating a newsletter with this method, the subscriber will receive the best available expression of the desired news item. Brief and full-text versions are delivered by electronic data services, such as facsimile or e-mail. By ordering a full-text version of a record, a subscriber implicitly states the relevance to his interests, and his subscriber profile is accordingly adjusted. The brief-text versions are generated by extracting key sentences from incoming news sources, such as news wires, newspapers, magazines, newsletters or press releases. The subscriber may order full records via a phone based interactive voice response system or an e-mail gateway.

However, a drawback of the above solutions is that substantial investments have to be made to put together and update the required databases and to generate dedicated web pages at companies desiring to stake their commercial success on e-commerce business. Thus, the current difficulties in conducting e-commerce are resulting in lost opportunities and unrealized profit.

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## SUMMARY OF THE INVENTION

It is therefore an object of the present invention to provide a method and system for delivering a subscriber-specific information to a subscriber, by means of which the investments of the system users can be minimized.

This object is achieved by a method for delivering a subscriber-specific information for a campaign via a communication network to at least one subscriber, said method comprising the steps of:

providing a user interface for enabling a network user to control the campaign via the communication network, said campaign defining predetermined delivery parameters of the subscriber-specific information; and  
delivering the subscriber-specific information to network terminals of the at least one subscriber in accordance with the predetermined delivery parameters.

Furthermore, the above object is achieved by a network server system for delivering a subscriber-specific information for a campaign via a communication network to at least one subscriber, said system comprising:

user interface means for enabling a network user to control the campaign via the communication network, the campaign defining predetermined delivery parameters of the subscriber-specific information;  
storing means for storing the predetermined delivery parameters; and  
delivery means for delivering the subscriber-specific information to network terminals of the at least one subscriber in accordance with the predetermined delivery parameters stored in the storing means.

Accordingly, a campaign which may be a marketing or any other information distribution campaign can be controlled via the communication network by the user interface. Therefore, the required e-commerce capabilities can be provided at any company by establishing an access to the user interface at the company site. The

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required databases and dedicated web pages can then be provided at a network server of a service provider.

The central provision of the required network resources makes the system easily scalable, wherein existing functionalities can be extended arbitrarily and new functionalities can be added in an easy way.

By accessing the system via the user interface, customers may handle the whole campaign or parts thereof themselves, the service provider may carry out the campaign for the customer, or both customer and service provider may actively influence the online campaign.

Preferably, the user interface may be a browser-based interface. Thus, only a corresponding browser software is required at a customer company to activate and control marketing or other information delivery campaigns.

The predetermined delivery parameters may comprise at least one of a content of a subscriber-specific information, a data service used for the delivering, a delivery address and a delivery date. The predetermined parameters may be individually set for each subscriber. Thereby, individual campaigns can be placed for an individual group of subscribers or clients of a company. The subscriber-specific information may be a newsletter, an e-mail, an SMS message, a WML document or any other suitable information or data carrier which can be transmitted via the communication network. A business service provider operating the network server and providing the user interface may thus offer customer relation and e-relation services and may assist its customers in intensifying their relationships to their users. To achieve this, a mixture of agency services or campaigns for marketing and newsletter distribution may be offered together with the necessary technical backbone.

According to an advantageous development, an access via the user interface may be controlled on the basis of a user-specific access right allocated to the network

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user. The user-specific access right may be selected from a plurality of access rights according to a predetermined allocation pattern or role matrix. As an example, an editor access right, a content manager access right, a project manager access right, a customer administrator access right, an operator administrator access right, and a super user access right may be defined. In particular, the editor access right may enable the network user to add and edit contents which can be incorporated into the subscriber-specific information, the content manager access right may enable the network user to add, edit and delete a content, the project manager access right may enable the network user to add and edit a campaign and a content and to deliver a campaign, the customer administrator access right may enable the network user to add, edit and delete a campaign, a content and a subscriber, to reactivate a campaign and a content stored in an archive, and to deliver a campaign, the operator administrator access right may enable the network user to add, edit and delete a campaign, a content and a subscriber, to reactivate a campaign and a content, to deliver a campaign, and to add, edit and delete new customers to which the user-specific access right is granted, and the super user access right may enable the network user to add, edit and delete a campaign, a content and a subscriber, to reactivate a campaign and a content, and to deliver a campaign. Thereby, the system operator or a registered service customer may grant individual access rights to employees or other system users dealing with the desired campaigns, so as to provide a high degree of flexibility.

According to another advantageous development, interfaces for a billing system and an e-mail call center may be provided. Hence, billing functions and e-mail distribution functions can be outsourced and controlled. Alternatively, the billing and e-mail distribution functions may be carried out within the network server system.

According to a further advantageous development, the user interface may provide access to a campaign manager function for defining said campaign. The campaign manager function may comprise a planning, execution and tracking function.

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Furthermore, the campaign manager function may be adapted to manage a plurality of campaigns. In this case, a transaction control mechanism may be provided to control customer and operator interactions. Thereby, overlaps and update problems due to customer and service operator interactions, which may be simultaneous and/or at the same topic, can be avoided. The campaign manager function enables the service customers to perform all relevant tasks of campaign planning, execution and tracking via the user interface, e.g. a secure browser-based interface. Each customer is capable of managing multiple campaigns and/or information distribution lists, so as to control the process and progress of each campaign at any time. This means that the service operator as well as the service customers are able to start, stop and pause a campaign at any time.

Furthermore, the user interface may provide access to a content manager function for collecting, editing, blocking, and deleting contents provided for the subscriber-specific information in a content database. In particular, the content manager function may be adapted to store for each content an information regarding a category, a type, a creation date, an activation date, and an expiry date. Additionally, the content manager function may be adapted to mark an expired content as inactive and to automatically transfer the expired content into an archive. The content may be stored and imported in various formats. Thus, by providing the content manager function, the service operator may assist its service customers in co-operation with major publishing companies to enrich customer-subscriber-communications with valuable content and topics. Due to the contact to major publishing companies, up-to-date information and data is available in the storing means at any time. Any type of content such as text, audio and video data can be collected in the storing means or content database, categorized and retrieved at any time by the service operator or any network user having a corresponding access right. Furthermore, service customers sharing the same target groups may co-operate to create synergy effects by providing access to their contents in the content database. A filter function may be provided to achieve an exclusive access based on a link structure between contents, campaigns and/or



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customers. Thereby, the access to the content or customer databases can be controlled.

Furthermore, the user interface may provide access to a subscriber management function for storing personal data, preferences of a subscriber and his relation to a customer who is the originator of a subscriber-specific information delivered to the subscriber. In particular, the subscriber management function may be adapted to perform a statistical analysis of the subscribing behaviour of the subscriber. Thereby, the subscriber-specific information can be adapted to the individual interests of the subscribers.

Additionally, the user interface may provide access to a shuttle function for assembling a content into an individual newsletter or an e-mail for each subscriber. In this case, the shuttle function may generate a graphical or numerical representation of the delivery state for each newsletter or e-mail. Furthermore, the shuttle function may classify incoming mails within predetermined categories and/or priorities for further processing. Thereby, the shuttle function allows to define business rules in order to decide where to route the passages based on the classification and/or priority. The shuttle function may generate a message tracking report, such that all messages received by the system can be tracked within the system.

As an additional measure, the shuttle function may insert a hyperlink into the newsletter or e-mail so as to receive and route an e-mail sent by a subscriber who has clicked the hyperlink. Such a backclick information can be used to derive specific subscriber interests required for a corresponding subscriber profile.

Furthermore, the user interface may provide access to a profile generator for collecting a subscriber profile from a response tracking and/or user preferences. The subscriber profile may preferably be generated on the basis of a reporting of backclicks of hyperlinks. This provides the advantage that the service customer is

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assisted in improving his marketing strategy and optimizing marketing efforts.

The method and system may be implemented as a computer program product, e.g. a software distributed on a recording medium or downloadable from a data network, which can be hosted by an Internet service provider (ISP), wherein the ISP is responsible for the hardware architecture and capacity.

Further advantageous developments of the present invention are defined in the dependent claims.

#### **BRIEF DESCRIPTION OF THE DRAWINGS**

In the following, the present invention will be described in greater detail on the basis of a preferred embodiment with reference to the accompanying drawings, in which:

Fig. 1 shows a schematic block diagram of a network server system according to the preferred embodiment of the present invention,

Fig. 2 shows a schematic block diagram of the components of a network server according to the preferred embodiment,

Fig. 3 shows a flow diagram of an access menu of a system administration function according to the preferred embodiment,

Fig. 4 shows a table of group rights which can be allocated to a network user,

Fig. 5 shows a flow diagram of an access menu of a subscriber management function according to the preferred embodiment,

Fig. 6 shows a flow diagram of an access menu of a content management function according to the preferred embodiment,

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Fig. 7 shows a flow diagram of an access menu of a campaign management function according to the preferred embodiment,

Fig. 8 shows a flow diagram of an access menu of a profile administration function provided in the user interface according to the preferred embodiment, and

Fig. 9 shows a flow diagram of an access menu of a shuttle management function according to the preferred embodiment.

#### **DESCRIPTION OF THE PREFERRED EMBODIMENT**

In the following, the preferred embodiment of the method and network server system according to the present invention will be described on the basis of a browser-based interface to a network server of an ISP which is responsible for data security, data back-up and any recovery mechanisms required.

Fig. 1 shows the basic components involved in the server based information delivery system. It is noted that the arrows are used to indicate general flows of information through the Internet. Thus, several network nodes such as routers may be involved in the transmission.

The network server 100 can be accessed by various network users, such as customers placing delivery campaigns, subscribers acting as recipients of delivered subscriber-specific informations (e.g. newsletters, e-mails or the like), a service operator SO responsible for the operation of the delivery service, and information sources  $I_1$  to  $I_k$  for providing content information to be stored in a content database and incorporated into the subscriber-specific information. The customers may access then the network via respective customer terminals  $C_1$  to  $C_n$ , and the subscribers may access the network via respective subscriber terminals  $S_1$  to  $S_m$ .

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In general, any network user having access to the communication network (i.e. Internet) may access the network server 100. In particular, a Web server application may be provided on the network server 100, which processes HTTP (Hypertext Transfer Protocol) requests received over the Internet from the customer terminals  $C_1$  to  $C_n$ , the subscriber terminals  $S_1$  to  $S_m$ , the information sources  $I_1$  to  $I_k$  or the service operator SO. The Web server application is arranged to access databases which include content information and delivery parameters required for delivering a subscriber-specific information for a campaign to specific ones of the subscriber terminals  $S_1$  to  $S_m$  based on corresponding campaign settings instructed by the customer terminals  $C_1$  to  $C_n$  and/or the system operator SO via a Web browser function provided at the respective terminals.

However, it should be noted that the subscribers may be only allowed to access to the network server via a submission-based access function by means of which the subscriber is allowed to transmit a subscriber information regarding his preferences or wishes by a data carrier such as an e-mail or the like. The received subscriber information may then be loaded to a subscriber database.

The service operator SO thus acts as a business service provider for customer relation, e-relation, or other information delivery services and assists its customers in delivering a subscriber-specific information to their customers so as to intensify the customer relationships and enable any kind of e-business. A major tool for the delivery of the subscriber-specific information may be an e-mail service. The service operator SO may offer a mixture of agency services, such as marketing, campaign or newsletter services, and may also provide the necessary technical backbone. As an alternative, the service operator may provide a corresponding software package which is hosted by the ISP. Furthermore, a reseller function may be provided for customers e.g. with a large number of subscribers, wherein an own access function with a customer-specific menu is allocated the customer to thereby establish a customer-based sub-system with an access to the main databases of the network server 100.

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In particular, the delivery service may be an e-mail marketing concept which comprises the following steps to be controlled via the Internet by any allowed browser-based interface. Initially, a marketing or delivery campaign is defined, which may optionally be followed by a corresponding media planning (online advertisements, Web-sponsorship). Then, the contents of the subscriber-specific information for the campaign are managed and edited e.g. as a newsletter or e-mail. Thereafter, the information delivery and reporting is scheduled, and user profiles are managed based on the reading behaviour or feedbacks of the subscribers. Furthermore, user feedbacks may be managed so as to adjust the user profiles and delivered contents. Thus, a new e-commerce approach is provided, wherein a flexible interaction between customers and service operator is possible. In particular, the customers may handle the whole campaign or parts of the campaign themselves via the browser-based user interface, the service operator may carry out a whole campaign for a customer, or both customer and service operator may actively influence an online campaign.

Fig. 2 shows a schematic block diagram of the network server 100, which comprises a Web server application as an interface section 105 arranged for enabling a network user or the service operator to control a specific campaign defined by respective delivery parameters stored in a subscriber database 140 or a content database 150. The interface section 105 provides access to predetermined functions or units of a control section 110, which comprises a transaction control unit 115 which schedules transaction requests concerning the same topic of a campaign and/or received simultaneously due to customer and service operator interactions, to thereby avoid overlapping transactions and update problems. Furthermore, the control section 110 comprises a profile generator 111 which generates a subscriber profile on the basis of a profiling response received via the Internet from respective subscriber terminals 200. Furthermore, a subscriber manager 112 is provided in the control section 110 so as to enable a customer to store and maintain subscriber data relating to his campaigns. Additionally, a campaign manager 113 is arranged for managing campaigns to be delivered by the

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network server 100 according to corresponding delivery parameters. The contents available for assembling a subscriber-specific information such as a newsletter or an e-mail are stored in the content database 150 and are controlled by a content manager 114 which can be accessed by external information sources 300 so as to update the content database 150 with up-to-date information.

Additionally, the control section 110 comprises a shuttle unit 116 which enables a central delivery control of the subscriber-specific information via a delivery section 120.

It is noted that any of the above functions 111 to 116 of the control section 110 can be accessed and controlled via the interface section 105 by a usual Web browser arranged at a network user terminal 500 or a service operator terminal 400.

The delivery section 120 comprises a streaming unit 121 for delivering a video or audio information via the Internet to a Personal Computer (PC) 201 as e.g. one of the subscriber terminals 200. In addition thereto, an SMTP (Simple Mail Transfer Protocol) server 122 is provided for controlling a mail server to transfer corresponding e-mail messages to and from the PC 201, a facsimile terminal 202 and/or a mobile terminal 203 as e.g. further kinds of said subscriber terminals 200. Alternatively, the newsletter or e-mail messages may be transferred to a printer 204 which may also function as one of the subscriber terminals 200.

Furthermore, the shuttle unit 116 may control an advertisement server 123 arranged in the delivery section 120 so as to place a corresponding advertisement in the Internet as a component of a specific campaign in a newsletter, an e-mail or the like. The costs accruing for the delivery of the subscriber-specific information can be accumulated and charged to the respective customer by a billing unit 124 which is controlled by the shuttle unit 116 and which provides an interface to a corresponding billing system.

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The functions or units 111 to 116 may be arranged as separate hardware units which can be accessed by the user terminal 500 or the service operator terminal 400, or as a corresponding application software which provides a browser-based user access via the interface section 105.

In the following, menu-controlled browser access functions provided by the interface section 105 are described on the basis of respective flow diagrams in Figs. 3, and 5 to 9. It is to be noted that these access functions are designed for and may be used by a customer or the service operator.

Fig. 3 shows a flow diagram of an access menu control of a system administration function which may be provided in the transaction control unit 115 or another unit of the control section 110. When an authorized customer or the service operator SO wishes to add, edit, or delete a user or allocate rights to an existing user, he may activate the system administration function indicated in a Webpage menu displayed at the user terminal. Then, the user may choose one of the functions to add a user, to edit a user, to delete a user and to display allocated rights. When the customer selects to add a user, the transaction control function 115 checks the rights of the customer (step 301) based on a corresponding information allocated to the customer and stored e.g. in the subscriber database 140. When it is detected that the customer is authorized to add a user, a menu page is displayed at the user terminal 500 of the customer. Otherwise, the access is inhibited and a corresponding message is displayed. In the menu page, user data such as a user name, password and e-mail address can be input (step 302) and a corresponding user group associated with respective access rights can be selected (step 303). Furthermore, additional rights including the associated rights can be individually selected with regard to the control of campaigns, the management of subscribers, the system administration, the content management and the shuttle function (step 304). Thereby, an individual access right profile can be allocated to a new user of the delivery system.

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The allocation of the access right profile may be based on a role matrix which defines a relationship or link between a predetermined role allocated to a new user and a corresponding access mask defining a combination of specific access rights granted to the predetermined role. The predetermined roles may comprise a campaign manager role for managing specific campaigns, an editor role for editing specific contents, a content manager role for managing specific contents, a subscriber support role for providing subscriber support functions, a delivery role for controlling delivery of specific campaigns, a profiling role for obtaining or controlling subscriber profile information, a user read-only role for providing a read-only access for users, a customer administration role for providing customer administration functions, a service provider administration role for providing administrative access functions for the service provider, and/or a system administration role for providing administrative access functions for controlling the server system. Furthermore, the access right mask linked with or allocated to a predetermined role may differ between a customer and a service operator.

When the customer selects to edit the data of an existing user, the corresponding authorization is checked in step 311 and a user list is displayed for selecting the desired user (step 312). When the customer has selected a user, the corresponding user data is displayed on a menu page (step 313). Then, the user data are modified in the subscriber database 140 based on the data modifications extracted at the user terminal (step 314). In particular, any of the above described user data can be modified.

When the customer selects to delete a user, the corresponding authorization is checked in step 321 and a user selection based on a displayed user list is performed in step 322. When a specific user has been selected, the corresponding user data is deleted from the subscriber database 140 upon activation of e.g. a respective button (step 323).

As a final alternative, a function may be selected where the user rights allocated



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to specific user groups are displayed in step 331. Fig. 4 shows a corresponding table indicating respectable user groups and their access rights. According to Fig. 4, an editor group can be selected, which is only allowed to add and edit contents stored in the content database 150. Furthermore, a content manager group is defined which is allowed to add, edit and delete contents from the content database 150. Further thereto, a project manager group is defined which is allowed to add and edit a campaign and a content, and to deliver a campaign. Additionally, a customer administrator group is defined which is allowed to add, edit and delete a campaign, a content and a user, to reactivate a campaign and a content from the archive, and to deliver a campaign. Moreover, an operator administrator group is defined which is allowed to add, edit and delete a campaign, a content and a user, to reactivate a campaign and a content from the archive, to deliver a campaign, and to add, edit and delete a new customer. Finally, a super user group is defined which is allowed to add, edit and delete a campaign, a content and a user, to reactivate a campaign and a content from the archive, and to deliver a campaign.

Fig. 5 shows a flow diagram of an access menu control of the subscriber manager function 112. In the initial menu page, a new subscriber can be added, an existing subscriber can be edited or deleted, a subscriber list can be displayed, or a subscriber search can be initiated.

The subscriber management function 112 is arranged to store in the subscriber database 140 all information on the subscribers, i.e. personal data, preferences and relation to a customer who is the originator of a subscriber-specific information according to a campaign. Additionally, categories of interest of the subscribers are stored in the subscriber database 140, wherein a corresponding link to the content database 150 may be established based the respective categories of interest. Furthermore, the subscriber manager 112 is adapted to perform a statistical analysis of the user behaviour, e.g. a survey of subscriptions and unsubscriptions per hour, day or week. The results or reports of such an analysis may be displayed or presented in a graphical or numerical form. Furthermore, user data can be

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imported or exported in common formats such as MS Word, MS Excel, text and the like. The subscriber manager 112 may further be arranged to deal with incomplete data sets, e.g. if a customer delivers incomplete subscriber data. Then, a corresponding message may be displayed in the menu page.

According to Fig. 5, the authorization of a customer accessing the subscriber manager 112 is checked in step 501 and a corresponding message is generated if the customer does not belong to a user group allowed to modify the subscriber data. When the customer is not allowed to modify the subscriber data, the access to the subscriber manager 122 is denied.

If the customer is authorized, a subscriber data input menu is displayed in step 502, and the customer may input name, address data, an e-mail address or any other desired subscriber information like age, hair color, etc. and may select specific subscriber interests indicated in the menu page. The new subscriber data are added to the content of the subscriber database. Moreover, the customer may define own menu fields for inputting a subscriber- or campaign-specific information which the customer wishes to use.

When the customer selects to edit a subscriber, the required authorization is checked in step 511. Then, a subscriber list is displayed in step 512, if the customer is authorized to modify the subscriber data. Otherwise, the access is denied. When a desired subscriber has been selected in step 513, the respective subscriber data are displayed in step 514 and the displayed subscriber data may be modified by a corresponding operation (step 515).

When the customer selects to delete a subscriber, the corresponding authorization is checked in step 521 and, if authorization is given, the subscriber list is displayed in step 522 and the customer may select a subscriber from the list (step 523). Then, upon activation of a corresponding function (e.g. by clicking a button), the subscriber is deleted from the subscriber database 140 (step 524).

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When the customer selects the display of a subscriber list, the access rights are checked (step 531) and a list of stored campaigns of the customer is displayed in step 532, and the customer may select a desired campaign in step 533. The campaigns may be a subscriber newsletter, a shareholder newsletter or the like. Then, based on the campaign selection, a subscriber list of the subscribers of the campaign is displayed in step 534, so as to enable the customer to check the subscribers. Furthermore, predetermined menu buttons or the like may be arranged in the menu to provide functions for displaying details of a selected campaign or for editing a campaign information.

When the customer selects the search function, the required access rights are checked (step 541). Then, a search item (e-mail address or other subscriber data, category or the like) can be input and/or a specific campaign can be selected (e.g. based on a top down menu) (step 542). Based on the search data input or selection, a corresponding search result is displayed in step 543, which may be a subscriber data or a subscriber data list. Then, an editor function for editing corresponding subscribers, a generation function for generating an own list, and/or a segmentation function for segmenting target groups for individual campaigns may be selected.

Fig. 6 shows a flow diagram of an access menu control of the content manager 114. The content manager 114 provides an interface to store all relevant information of contents for campaigns, i.e. information about the content source/-supplier, the content category (e.g. "sports", "science", "computers", etc.), the content type (text, video file, audio file, images, banners, etc.), creation date, activation and expiry date. Expired documents are marked as inactive and are automatically transferred into an archive which may be provided as a predetermined memory region in the content database 150. Furthermore, a specific content or piece of content can be blocked for a predetermined time period, i.e. the respective content or piece of content cannot be selected for a campaign during the predetermined time period. Moreover, a content supplier, a content category and/or

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a content status (e.g. received, edited, revised, enabled or the like) may be defined or selected for the new content.

The content manager 114 is arranged to store contents in all languages and character sets. Content can be imported in various formats, such as text, MS Word, MS Excel, GIF, JPG, AVI, Macromedia Flash, etc.).

Additionally, a dynamic content function may be provided, wherein each subscriber receives an individually assembled and thematically adapted information (e.g. newsletter). To achieve this, the subscriber may select specific fields of interests for a predetermined newsletter or a predetermined field oriented newsletter. In the former case, general information such as greetings, imprints and the like are included together with articles relating to the selected fields of interest. Other fields are not included in the newsletter. Thus, the themes are dynamically assembled in a single newsletter.

The articles in the specific fields generally include links or hyperlinks. At each delivery of the newsletter, it is checked which links are clicked by the subscriber, in order to obtain a statistic. Based on the statistic, selected fields of specific interest are determined, e.g. by the profile generator 111. Thus, the system is able to adapt the delivered content to the backclick behaviour of the subscribers. This can be achieved by supplying a corresponding information from the profile generator 111 to the content manager 114 which then correspondingly adapts the contents of the delivered information (e.g. newsletter). With every delivery of the newsletter to the subscriber, the content of the newsletter is thus increasingly adapted to the needs of the customer.

According to Fig. 6, the customer may select to add a content, to edit a content, to delete a content or to import a content, wherein the required authorization is initially checked in each of steps 601, 611, 621, 631, 641 and 651. When the customer selects to add a content, content control data are required to be input in

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step 602. The content control data comprise the content source/supplier, the creation date, the expiry date, a content category which may be selected, an inhibition period, a content status, a list of non-allowable campaigns for which the content is not allowed, and an indication whether an addition of the content is allowed (step 602). Then, the text, audio, visual or video information of the content can be inputted or edited e.g. with a keyboard or other suitable input devices.

When the customer selects to edit a content, a list of available contents is displayed on the menu page (step 612) and a content can be selected in step 613. After selection, the respective content data is displayed (step 614), and the customer may modify the content data by a corresponding input operation (step 615).

When the customer selects to delete a content, the content list is displayed in step 622, and the customer may select a content in step 623. Then, the selected content may be deleted from the content database 150 by a corresponding input operation (step 624).

When the customer selects to import a content, a menu page is displayed where the customer may input a file name of the respective content file to be imported (step 632), and the corresponding content control data are input as in step 602 (step 633). Additionally, the menu page may include a selection or input function for selecting a category for the imported content from a number of available categories. If a desired category is not available, a new category may be defined by a corresponding input function.

When a search function is selected, a search data input menu is displayed in step 642, wherein the search data may relate to a name of the content, a keyword, a creation date, a format, an activation date, an expiry date, a category, a supplier or a status. Based on the input search data, a search is conducted and the search

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result is displayed in step 643.

Finally, an archive function can be selected, where a category can be selected in step 652 and a list of expired contents stored in the archive is displayed (step 653). Then, a reactivation function may be provided for reactivating expired contents displayed in the list.

Fig. 7 shows a flow diagram of an access menu control of the campaign manager 113. In particular, the campaign manager 113 is arranged to control and monitor the complete run of the campaign. By means of the campaign manager 113, customers may perform all relevant tasks of campaign planning, execution and tracking via the browser-based interface. Each user can manage multiple campaign, multiple distribution lists etc., and may thus control the process and progress of each campaign at any time. As an example, the service operator as well as the customers are able to start, stop or pause a campaign at any time. As already mentioned, the transaction control function 115 avoids interaction problems associated with the multiple access capability.

According to Fig. 7, the customer may select to add a campaign, to edit a campaign, to delete a campaign, to add a customer, to edit a customer, to delete a customer, to display an archive, and to search for or to reactivate a campaign and/or a content based on the displayed archive. The corresponding authorization of the customer is checked in each of steps 701, 711, 721, 731, 741, 751, and 761, wherein the respective function is inhibited and a corresponding message is displayed, if the customer is not allowed to modify the campaign or the customers.

When the addition of a campaign is selected, the customer is requested to input campaign data in step 702. The campaign data may comprise a status of the campaign (ready for delivery, planning state or the like), a name and address of a responsible person, a brief description of the campaign, and details regarding e.g. delivery periods, delivery data services and the like (steps 702 and 703). When an

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edition of a campaign is selected, a list of campaigns of the respective customer is displayed (step 712), and the customer may select a specific campaign (step 713). Then, the details of the selected campaign are displayed (step 714) and the customer may modify the campaign data (step 715). In a similar manner, a campaign may be selected in steps 722 and 723, when the deletion of a campaign is selected. Then, the deletion of the campaign can be instructed by a corresponding input operation in step 724.

Furthermore, a budget function may be provided for allocating a budget to a predetermined campaign, wherein the billing function 124 controls the budget based on individual deliveries relating to the predetermined campaign. Then, an alerting message may be issued to the customer when the budget has been used up. Furthermore, an automatic deletion or inhibition function could be provided which is controlled on the basis of the budget. Moreover, an information concerning the currency or monetary value of the budget may be issued to the customer.

Furthermore, an interface function for adding a new customer can be selected by a user having a corresponding authorization, wherein an input of the company name and address and the name and address of a responsible person is requested to be input in step 732. As an alternative, the addition of a customer may be selected, wherein an authorized user may modify customer data after a selection of a desired customer from a displayed customer list as indicated in steps 742 to 744. Furthermore, the deletion of a customer may be selected, wherein an authorized user may select a customer from a displayed customer list (steps 752 and 753), and may then activate a deletion of the selected customer (154). Finally, an archive of campaigns may be selected, wherein a corresponding list of expired campaigns is displayed in step 762. Then, a specific campaign may be selected from the displayed list (step 763) and the details of the selected campaign are displayed in step 764. This selected campaign may optionally be reactivated by a corresponding input function. Thus, based on the interface functions of the

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campaign manager 113, an authorized customer and the service operator may control and manage multiple campaigns.

Fig. 8 shows a flow diagram of an access menu control of a profile administration function of the profile generator 111. The profile generator 111 provides the necessary infrastructure to collect user profiles from response trackings, backclick behaviors and user preferences.

According to Fig. 8, an authorization to access the profile generator is checked in step 800. When the customer user is not authorized to access the profile generator 111, a corresponding message is generated and the access is denied.

Otherwise, the user may select a backclick statistic and/or a subscriber behaviour statistic.

When the backclick statistic is selected, general and link-specific backclick details are displayed (step 801). These details may comprise the total number of e.g. newsletters, backclicks, and a clickrate (average number of backclicks per delivered newsletter) of a specific campaign. Furthermore, the number of backclicks is displayed for each link provided in the campaign (e.g. newsletter, e-mail or the like). Additionally, a link can be activated for displaying the user-IDs of those subscribers having clicked the link and given their approval for statistical evaluation of their personal data. When such a link is selected in step 802, the corresponding subscriber-IDs are displayed for the selected link (step 803). Additionally, user preferences, selected fields of interest of the subscribers can be displayed.

When the subscriber behaviour statistic is selected, a list of campaigns is displayed (step 811) and a specific campaign can be selected (step 812). Then, a list of subscriber-IDs of those subscribers of the campaign which have given their approval to use their personal data is displayed (step 813). Then, a specific subscriber-ID can be selected (step 814) and the subscribed items of the selected subscriber are displayed together with a number of backclicks per item and the



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resulting evaluation of preferences (step 815). Based on the evaluated preferences, a dynamic adaptation of the contents of respective campaigns is initiated. Thus, these statistical informations obtained from the profile generator 111 can be used to achieve an effective management of specific campaigns.

Fig. 9 shows a flow diagram of an access menu control of the shuttle management of the shuttle unit 116. The shuttle unit 116 provides a central information delivery control function offered to the customers as a Web-based service. Content applied by the content manager 114 under control of the campaign manager 113 is automatically assembled into a personalized, individual newsletter or e-mail for each subscriber. In particular, the shuttle unit 116 provides a graphical and numerical representation of the delivery status for each campaign, e.g. delivery date, number of mails successfully sent, number of bounced e-mails, time spent for delivery to all subscribers.

Furthermore, incoming mails are classified into predetermined categories and priorities for further processing. The categories may comprise questions, requests for contact, comments, replies, and complains, wherein a normal priority is allocated to questions and replies, a low priority is allocated to comments, and a high priority is allocated to requests for contact and complains.

Based on the above categories and priorities, the shuttle unit 116 is arranged to define business rules in order to decide where to route the received messages (customer service, marketing, etc. of the customer who has initiated the campaign or the service provider). Furthermore, "mailto"-hyperlinks can be inserted into a newsletter or e-mail such that a message received from a user who has clicked the hyperlink is received by the shuttle unit 116 and classified, prioritized and routed as described above.

Additionally, the shuttle unit 116 may handle bounced e-mails automatically, e.g. if a mailbox of a subscriber is full for a predetermined number of times (e.g. three

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times), this subscriber is set on hold for a predetermined period of time. After that period, the delivery of e-mails to that subscriber is retried for an additional number of times (e.g. five times), and if the problem still occurs, the subscriber is deleted from the subscriber database 140. In a similar manner, unknown subscribers are deleted from the subscriber database 140. Thereby, an efficient management of the storing capacity can be provided. Furthermore, received messages such as away-messages or automatic responders may be filtered to reduce the load of the respective administrator function.

All messages received by the network server 100 must be tracked within a system. The escalation history is monitored in a message tracking report and an alert is issued by the shuttle unit 116 and displayed when a customer or the service operator is accessing the shuttle unit 116. Preferably, only those alerts concerning his own campaigns are displayed at the user interface of a specific customer.

According to Fig. 9, delivery statistics or delivery options can be selected by a customer. However, initially an authorization to access the shuttle unit 116 is checked similar to step 800 of Fig. 8 (step 900). When the delivery statistics are selected, a list of delivered campaigns is displayed (step 901). Then, a campaign can be selected in step 902 and the statistics of the selected campaign are displayed (step 903). In particular, the delivery statistics comprise a delivery status (percentage of delivered messages), a delivery rate (number of messages per time unit), a delivery date, a delivery start, a delivery end, a delivery period, the total number of receivers and the number of returned messages.

When the delivery options are selected, a list of campaigns ready for delivery is displayed in step 111. Then, a specific campaign can be selected (step 912) and delivery options are displayed in step 913. These options comprise delivery date, delivery time, or immediate delivery. Based on the selected delivery option, the selected campaign (e.g. newsletter or e-mail) is delivered to the respective subscribers (step 915).

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The shuttle unit 116 may be arranged to support HTML (Hyper Text Markup Language) and Plain Text version of the same campaign (e.g. newsletter, e-mail, WML document, SMS message, Flash, etc.), wherein the address of the real sender is suppressed to meet data security requirements. Due to the browser-based user interface, online reporting and statistical analysis on delivery state for each campaign can be provided together with reports on undeliverable or bounced e-mails due to filled mailboxes, unknown users or Internet problems.

The server system must be arranged to perform the subscriber management in a manner to strictly separate customer data. This can be achieved by a corresponding access control via an authorization or password or the like. If the shuttle unit 116 comprises an own subscription database, data of new subscribers is automatically supplied thereto. On the other hand, if a subscriber unsubscribes a newsletter, this data is automatically deleted from the subscription database. If a subscriber has subscribed several newsletters and unsubscribes only a part of them, the subscription data is also automatically updated in the subscription database of the shuttle unit 116.

Thus, the provision of the network server with the browser-based use interface leads to a software architecture which is easily scalable, i.e. existing functionalities can be extended arbitrarily and new functionalities can be added in an easy way. Furthermore, the browser-based front end technology assures minimal hardware requirements for the customers or clients. The online access enables accurate up to the minute reporting on budgets and effectiveness, so that an efficient campaign management is assured. Moreover, data security requirements are met by the suppression of the real senders e-mail address which may be replaced by a service operator e-mail address.

It is noted that the described information delivery method and system can be applied to any kind of subscriber-specific information, such as data files, search results, downloads or the like. Moreover, any user interface and menu control

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scheme for enabling a network user to control a campaign via communication network can be used. The above description of the preferred embodiment and the accompanying drawings are only intended to illustrate the present invention. The preferred embodiment of the invention may thus vary within the scope of the attached claims.

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Claims

1. . . . A method for delivering a subscriber-specific information for a campaign via a communication network to at least one subscriber, said method comprising the steps of:  
providing a user interface (110) for enabling a network user to control said campaign via said communication network, said campaign defining predetermined delivery parameters of said subscriber-specific information;  
and  
delivering said subscriber-specific information to network terminals ( $S_1$ - $S_m$ , 201-204) of said at least one subscriber in accordance with said predetermined delivery parameters.
2. A method according to claim 1, wherein said user interface (110) is a browser-based interface.
3. A method according to claim 1 or 2, wherein said predetermined delivery parameters comprise at least one of a content of said subscriber-specific information, a data service used for said delivering, a delivery address and a delivery date.
4. A method according to claim 3, wherein said predetermined delivery parameters are individually set for each subscriber.
5. A method according to any one of claims 1 to 4, wherein said subscriber-specific information is a newsletter, e-mail, WML document, SMS message, or Flash.
6. A method according to any one of the preceding claims, wherein said campaign is controlled by said network user in co-operation with a service operator (SO) providing the delivery service.

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7. A method according to any one of the preceding claims, wherein said delivery parameters are stored in at least one database (140).
8. A method according to any one of the preceding claims, wherein an access via said user interface (110) is controlled on the basis of a user-specific access right allocated to said network user.
9. A method according to claim 8, wherein said user-specific access right is selected from a plurality of access rights according to a predetermined role matrix.
10. A method according to claim 9, wherein said plurality of access rights comprise an editor access right which enables said network user to add and edit contents which can be incorporated into said subscriber-specific information, a content manager access right which enables said network user to add, edit and delete a content, a project manager access right which enables said network user to add and edit a campaign and a content, and to deliver a campaign, a customer administrator access right enables said network user to add, edit and delete a campaign, a content and a subscriber, to reactivate a campaign and a content stored in an archive, and to deliver a campaign, an operator administrator access right which enables said network user to add, edit and delete a campaign, a content and a subscriber, to reactivate a campaign and a content, to deliver a campaign, and to add, edit and delete new customers to which said user-specific access right is granted, and said super user access right enables said network user to add, edit and delete a campaign, a content and a subscriber, to reactivate a campaign and a content, and to deliver a campaign.

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11. A method according to any one of the preceding claims, wherein interfaces (124, 122) for a billing system and a call center are provided.
12. A method according to any one of the preceding claims, wherein said user interface (110) provides access to a campaign manager function (113) for defining a marketing campaign.
13. A method according to claim 12, wherein said campaign manager function (113) comprises a planning, execution and tracking function.
14. A method according to claim 12 or 13, wherein said campaign manager function (113) is adapted to manage a plurality of campaigns.
15. A method according to claim 14, wherein a transaction control mechanism (115) is provided to control customer and operator interactions.
16. A method according to any one of the preceding claims, wherein said user interface (110) provides access to a content manager function (114) for collecting, editing, blocking and deleting contents for said subscriber-specific information in a content database (150).
17. A method according to claim 16, wherein said content manager function (114) is adapted to store for each content an information regarding a category, a type, a creation date, an activation date and an expiry date.
18. A method according to claim 16 and 17, wherein said content manager function (114) is adapted to mark an expired content as inactive and to automatically transfer said expired content into an archive.
19. A method according to any one of claims 16 to 18, wherein said contents can be stored and imported in various formats.

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20. A method according to any one of the preceding claims, wherein said user interface (110) provides access to a subscriber management function (112) for storing personal data, preferences of a subscriber and his relation to a customer who is the originator of a subscriber-specific information delivered to said subscriber.
21. A method according to claim 20, wherein said subscriber management function (112) is adapted to perform a statistical analysis of the subscribing behaviour of said subscriber.
22. A method according to any one of the preceding claims, wherein said user interface (110) provides access to a shuttle function (116) for assembling a content into an individual campaign to be sent to subscriber.
23. A method according to claim 22, wherein said shuttle function (116) generates a graphical and/or numerical representation of the delivery state for each campaign.
24. A method according to claim 22 or 23, wherein said shuttle function (116) classifies incoming messages within predetermined categories and/or priorities for further processing.
25. A method according to claim 22 or 23, wherein said shuttle function (116) classifies an incoming response within predetermined categories and/or for further processing.
26. A method according to any one of claims 22 to 25, wherein said shuttle function (116) generates a message tracking report.
27. A method according to any one of claims 22 to 26, wherein said shuttle function (116) inserts a hyperlink into said campaign so as to receive and



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route an e-mail sent by a subscriber who has clicked said hyperlink.

28. A method according to any one of the preceding claims, wherein said user interface (110) provides access to a profile generator (113) for collecting a subscriber profile from a response tracking and/or user preferences.
29. A method according to claim 27, wherein said subscriber profile is generated based on a reporting of backclicks of hyperlinks.
30. A network server system for delivering a subscriber-specific information for a campaign via a communication network to at least one subscriber, said system comprising:
  - user interface means (105) for enabling a network user to control said campaign via said communication network, said campaign defining predetermined delivery parameters of said subscriber-specific information;
  - storing means (140, 150) for storing said predetermined delivery parameters; and
  - delivery means (120) for delivering said subscriber-specific information to network terminals ( $S_1$ - $S_m$ ; 201-204) of said at least one subscriber in accordance with said predetermined delivery parameters stored in said storing means (140, 150).
31. A system according to claim 30, wherein said user interface means (110) is a browser-based interface.
32. A system according to claim 30 or 31, wherein said storing means (140, 150) comprises a subscriber database (140) for storing subscriber-specific data, and a content database (150) for storing content data.
33. A system according to any one of claims 30 to 32, wherein said predetermined delivery parameters comprise at least one of a content of said subscriber-specific information, a data service used for said delivering, a

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delivery address and a delivery date.

34. A system according to any one of claims 30 to 33, further comprising transaction control means (115) for allocating a user-specific access right to said network user and for controlling an access via said user interface means (110) on the basis of said user-specific access right.
35. A system according to claim 34, wherein said user-specific access right defines a scope of allowed modifications of contents and/or delivery parameters stored in said storing means (140, 150).
36. A system according to claim 34 or 35, wherein said transaction control means (115) is arranged to control customer and operator interactions.
37. A system according to any one of claims 30 to 36, wherein said delivery means (120) comprises streaming means (121), mail server means (122) and advertisement server means (123).
38. A system according to any one of claims 30 to 37, wherein said delivery means (120) comprises a billing means (124).
39. A system according to any one of claims 30 to 38, wherein said user interface means (105) is arranged to provide access to a shuttle means (116) for assembling a content stored in said storing means (150) into an campaign task selected from an individual newsletter, an e-mail, an SMS, a facsimile message, or a WML document, to be sent to the subscriber.
40. A system according to claim 39, wherein said shuttle means (116) is arranged to insert a hyperlink into said campaign task so as to receive and route an e-mail sent by a subscriber who has clicked said hyperlink.

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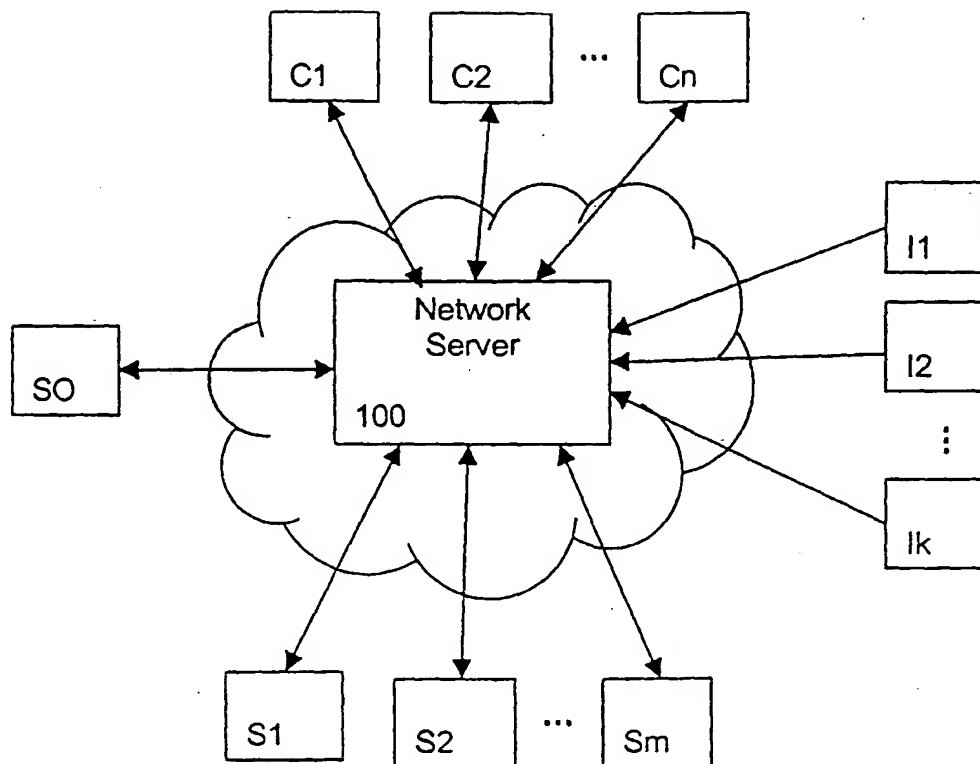
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41. A system according to any one of claims 30 to 40, wherein said user interface means (105) is arranged to provide access to a profile generator (111) for collecting a subscriber profile from a response tracking and/or user preferences.
42. A system according to claim 41, wherein said profile generator (111) is arranged to generate said subscriber profile based on a reporting of backclicks of hyperlinks.
43. A computer program product for controlling a computer system to perform the steps of any one of claims 1 to 29, when said computer program product is loaded into said computer system.

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**Fig. 1**

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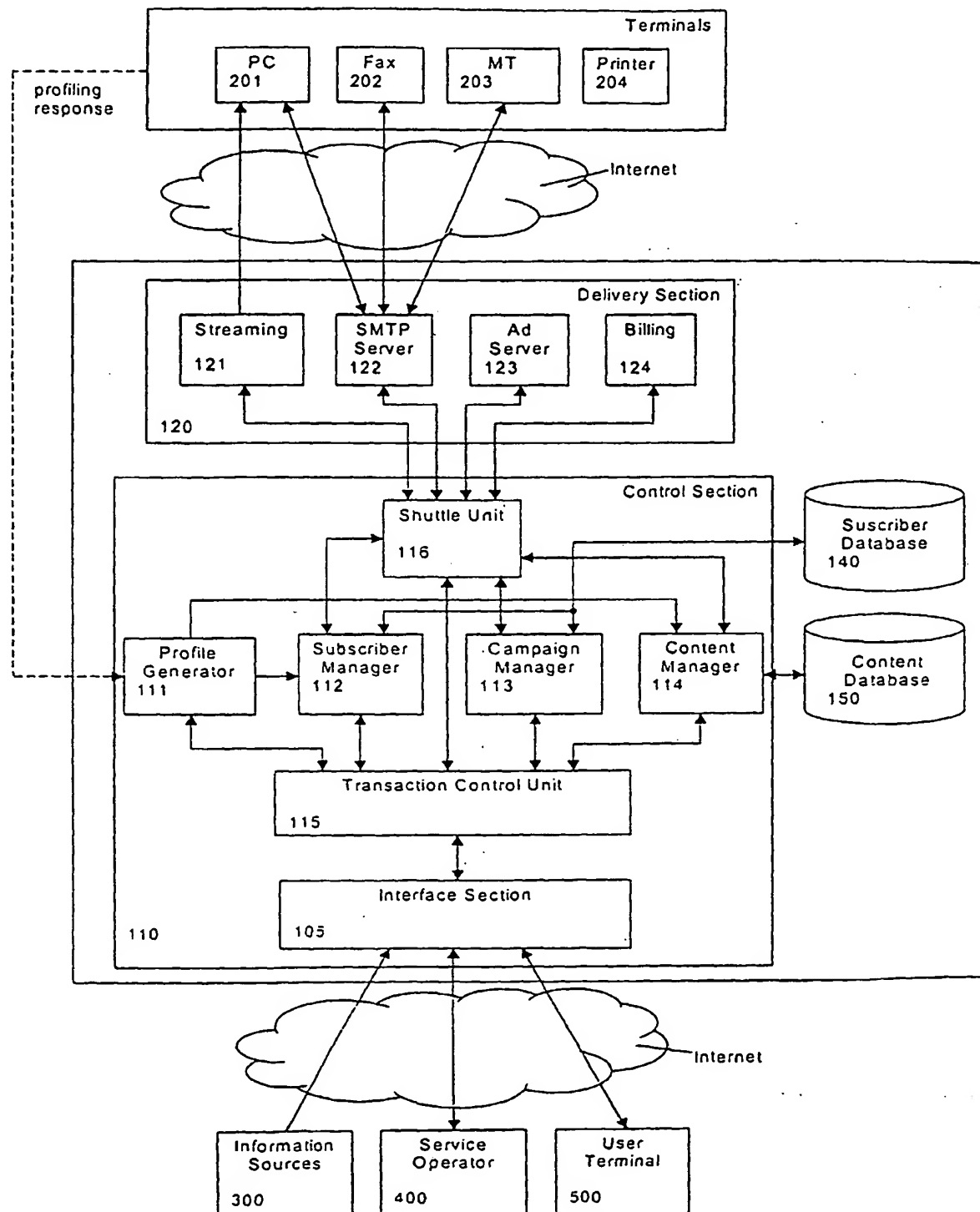


Fig. 2

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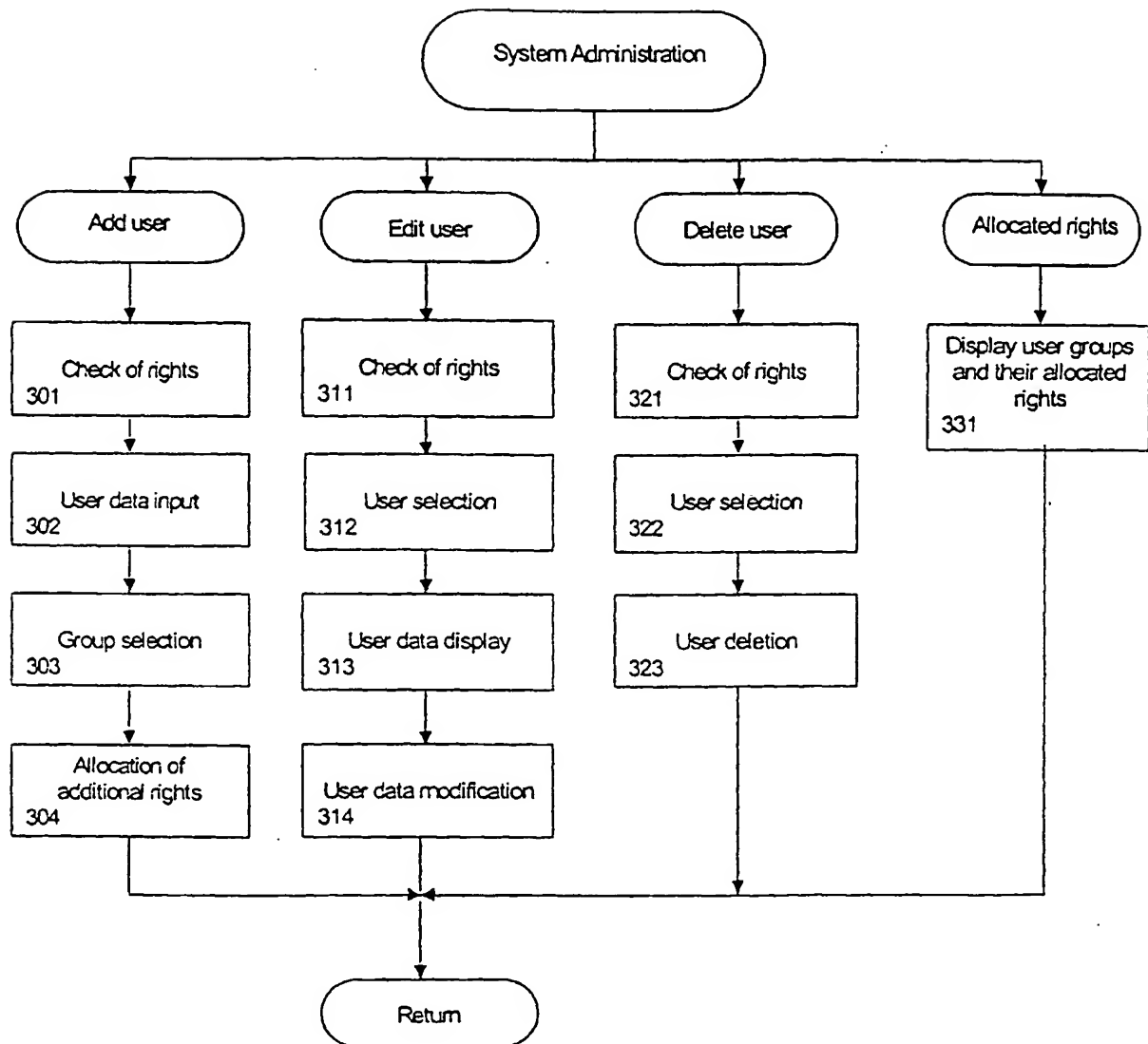


Fig. 3

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Type of groupe	Allocated rights
Editor	Add and edit a content (only writing rights)
Content Manager	Add, edit and delete a content
Project Manager	Add and edit a campaign and a content, deliver a campaign
Customer Administrator	Add, edit and delete a campaign, a content and a user, reactivate a campaign and a content from the archive, deliver a campaign
Operator Administrator	Add, edit and delete a campaign, a content and a user, reactivate a campaign and a content from the archive, edit and delete new customers
Super User	add, edit and delete a campaign, a content and a user, reactivate a campaign and a content from the archive, deliver a campaign

Fig. 4

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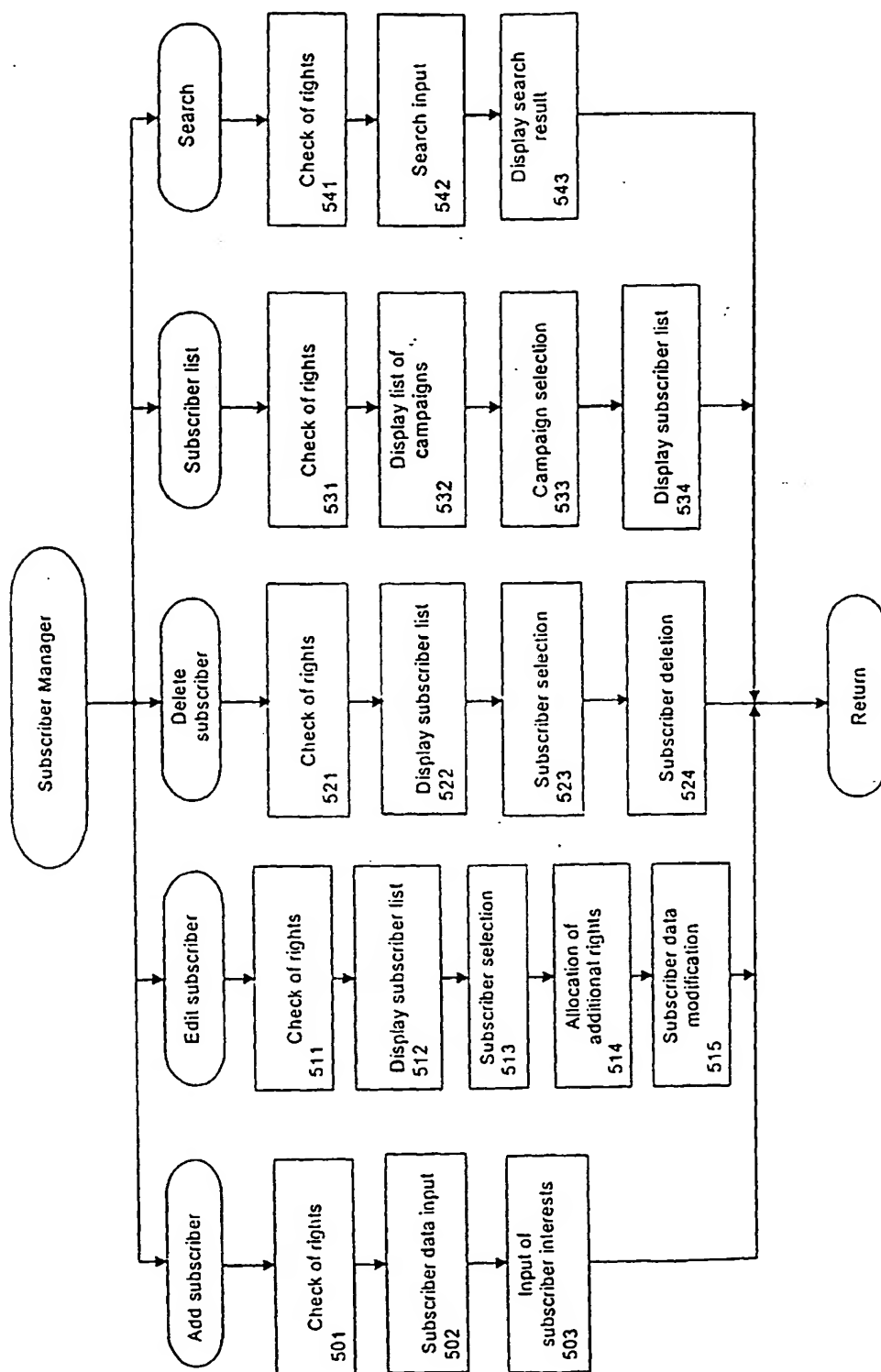


Fig. 5



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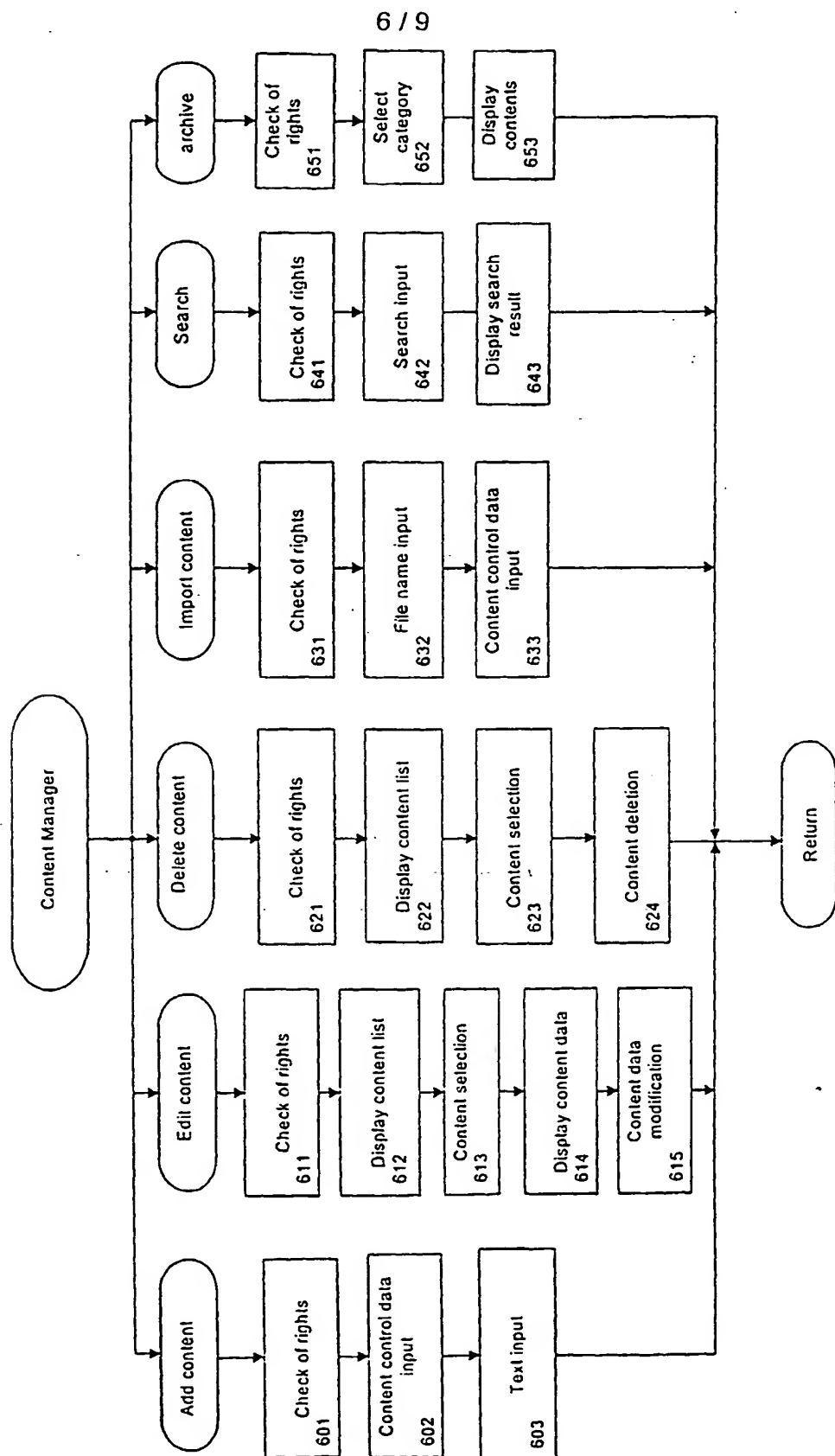


Fig. 6

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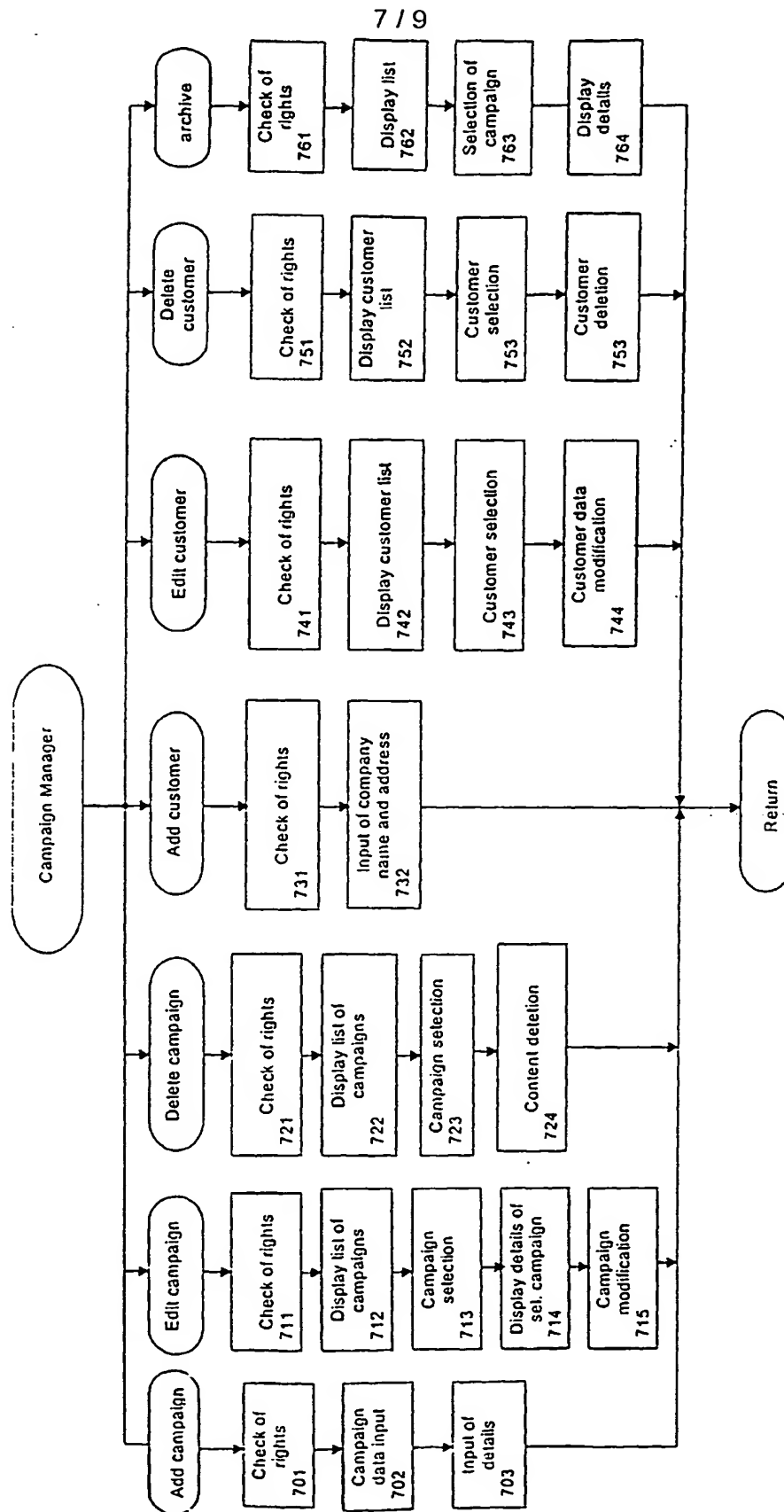


Fig. 7

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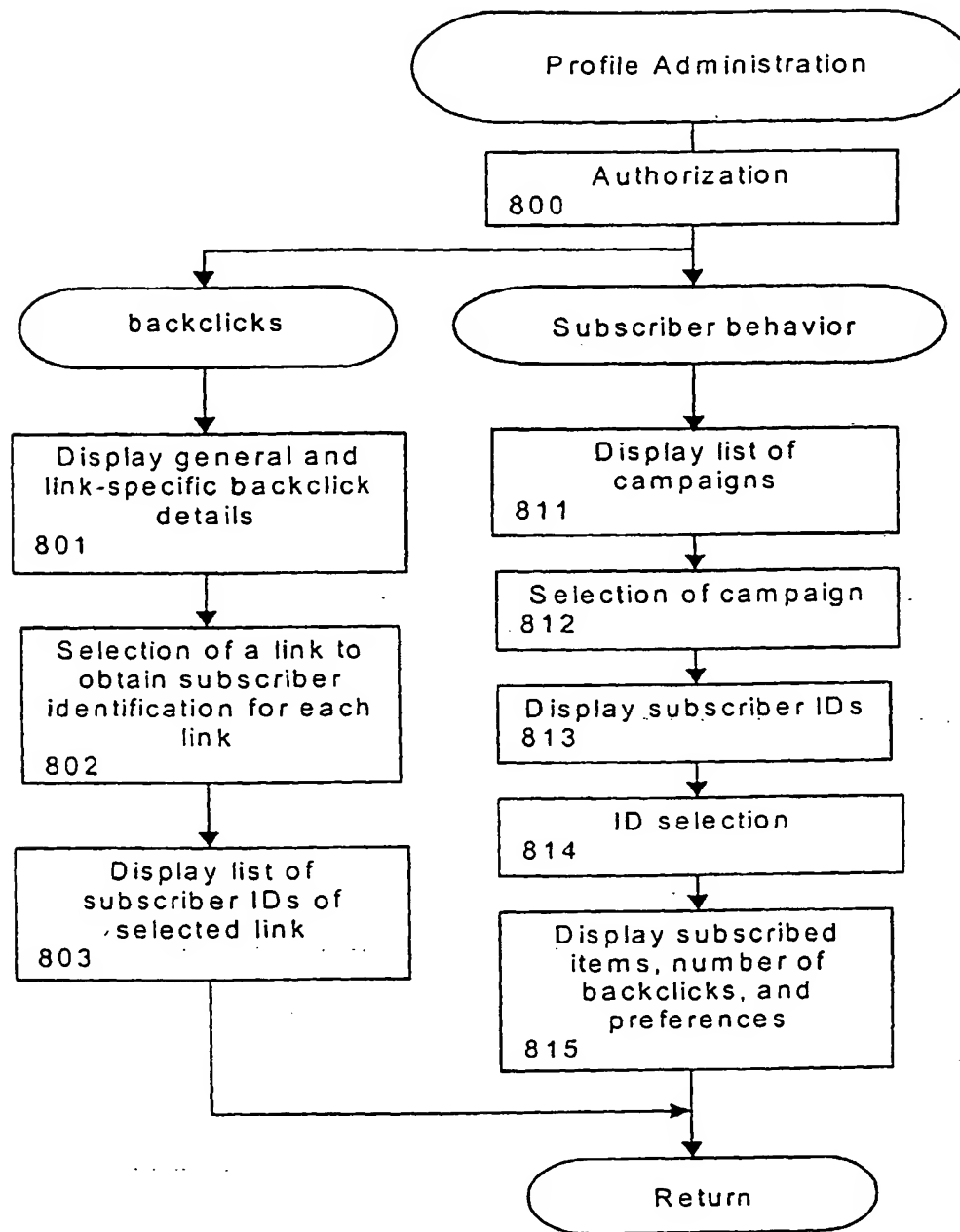


Fig. 8

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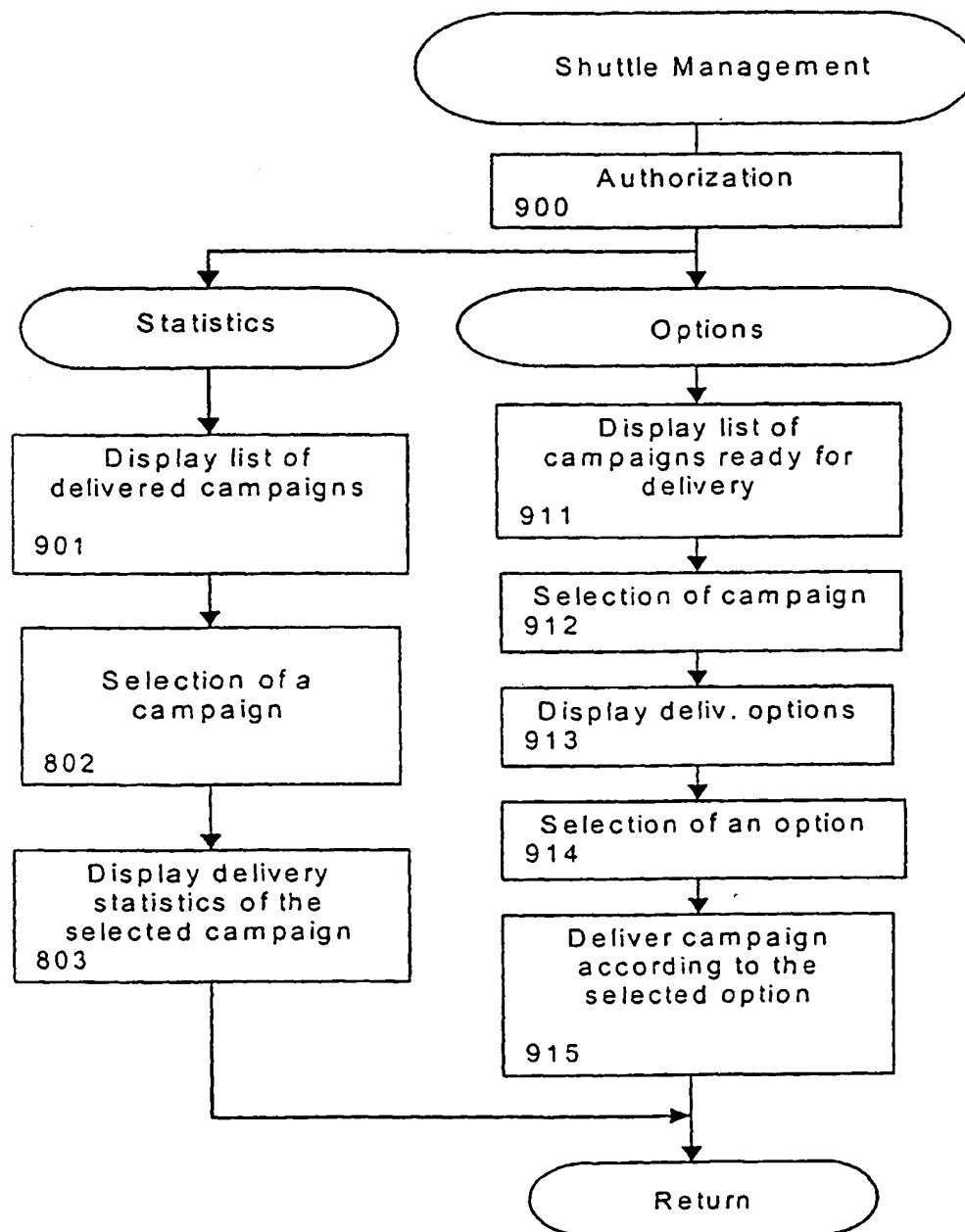


Fig. 9

## INTERNATIONAL SEARCH REPORT

Inter Application No  
PCT/EP 01/00768

**A. CLASSIFICATION OF SUBJECT MATTER**  
IPC 7 G06F17/60

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 G06F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

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**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>WO 00 41119 A (CIEPIEL ANTHONY M ;REALTY ONE INC (US); VERBA STEPHEN M (US)) 13 July 2000 (2000-07-13) abstract page 2, line 29 - line 37 page 4, line 39 -page 5, line 11 page 6, line 48 -page 7, line 40 page 9, line 50 -page 10, line 11 page 11, line 35 - line 48 page 14, line 40 -page 15, line 19 page 21, line 9 - line 10 figures 2,9,12</p> <p style="text-align: center;">--- -/--</p>	1-43



Further documents are listed in the continuation of box C.



Patent family members are listed in annex.

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Date of the actual completion of the international search

31 August 2001

Date of mailing of the international search report

13/09/2001

Name and mailing address of the ISA

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Platzer, C

## INTERNATIONAL SEARCH REPORT

Inter	Application No
PCT/EP 01/00768	

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 01 04784 A (MEDIAPLEX INC) 18 January 2001 (2001-01-18) page 6, line 1 -page 7, line 2 page 7, line 25 -page 9, line 21 page 15, last paragraph page 18, line 22 - line 26 -----	1-43

## INTERNATIONAL SEARCH REPORT

Inte	Application No
PCT/EP 01/00768	

Patent document cited in search report		Publication date	Patent family member(s)		Publication date
WO 0041119	A	13-07-2000	US	6236977 B	22-05-2001
			AU	2598600 A	24-07-2000
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WO 0104784	A	18-01-2001	AU	5927600 A	30-01-2001
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